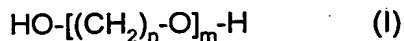


We claim:-

1. A biodegradable polyester mixture comprising
  - 5 from 5% to 80% by weight, based on the total weight of components i to ii, of at least one polyester based on aliphatic and aromatic dicarboxylic acids and an aliphatic dihydroxy compound (component i) and
  - 10 from 20% to 95% by weight, based on the total weight of components i to ii, of at least one renewable raw material (component ii) and
  - 15 from 0.1% to 15% by weight, based on the total weight of components i to ii, of a component iii which is capable of forming covalent bonds with both component i and component ii.
2. The biodegradable polyester mixture according to claim 1 wherein said component i is polymerized from:
  - 20 A) an acid component comprising
    - a1) 25 from 30 to 99 mol% of at least one aliphatic or at least one cycloaliphatic dicarboxylic acid or its ester-forming derivatives or mixtures thereof
    - a2) from 1 to 70 mol% of at least one aromatic dicarboxylic acid or its ester-forming derivative or mixtures thereof and
    - a3) 30 from 0 to 5 mol% of a sulfonated compound,
  - 30 the mole percentages of said components a1) to a3) adding up to 100% and
  - 35 B) a diol component comprising at least one C<sub>2</sub>- to C<sub>12</sub>-alkanediol or a C<sub>5</sub>- to C<sub>10</sub>-cycloalkanediol or mixtures thereof
  - and if desired additionally one or more components selected from
  - C) a component selected from

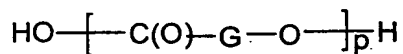
- c1) at least one dihydroxy compound which comprises ether functions and has the formula I



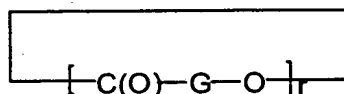
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where n is 2, 3 or 4 and m is an integer from 2 to 250,

- c2) at least one hydroxy carboxylic acid of the formula IIa or IIb



(IIa)



(IIb)

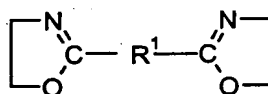
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where p is an integer from 1 to 1500, r is an integer from 1 to 4 and G is a radical selected from the group consisting of phenylene,  $-(\text{CH}_2)_q-$ , where q is an integer from 1 to 5,  $-\text{C}(\text{R})\text{H}-$  and  $-\text{C}(\text{R})\text{HCH}_2-$ , where R is methyl or ethyl,

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- c3) at least one amino- $\text{C}_2$ - to  $\text{C}_{12}$ -alkanol or at least one amino- $\text{C}_5$ - to  $\text{C}_{10}$ -cycloalkanol or mixtures thereof
- c4) at least one diamino- $\text{C}_1$ - to  $\text{C}_8$ -alkane
- c5) at least one 2,2'-bisoxazoline of the general formula III

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(III)

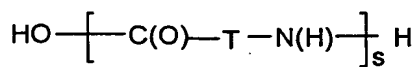
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where  $\text{R}^1$  is a single bond, a  $(\text{CH}_2)_z$ -alkylene group, where z = 2, 3 or 4, or a phenylene group

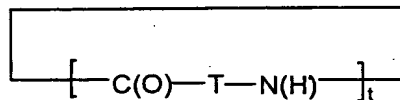
- c6) at least one amino carboxylic acid selected from the group consisting of the natural amino acids, polyamides obtainable by polycondensation of a dicarboxylic acid having from 4 to 6 carbon atoms and a diamine having from 4 to 10 carbon atoms, compounds of the formulae IV a and IVb

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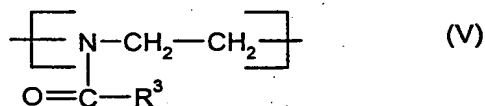
(IVa)



(IVb)

where  $s$  is an integer from 1 to 1500,  $t$  is an integer from 1 to 4 and  $\text{T}$  is a radical selected from the group consisting of phenylene,  $-(\text{CH}_2)_u-$ , where  $u$  is an integer from 1 to 12,  $-\text{C}(\text{R}^2)\text{H}-$  and  $-\text{C}(\text{R}^2)\text{HCH}_2$ , where  $\text{R}^2$  is methyl or ethyl,

and polyoxazolines containing the repeat unit V



where  $\text{R}^3$  is hydrogen,  $\text{C}_1$ - $\text{C}_6$ -alkyl,  $\text{C}_5$ - $\text{C}_8$ -cycloalkyl, unsubstituted or  $\text{C}_1$ - $\text{C}_4$ -alkyl-monosubstituted, -disubstituted or -trisubstituted phenyl or is tetrahydrofuryl,

or mixtures of c1) to c6)

and

D) a component selected from

d1) at least one compound having at least three groups capable of ester formation,

d2) at least one isocyanate

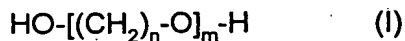
d3) at least one divinyl ether

or mixtures of d1) to d3).

3. The biodegradable polyester mixture according to claim 1 or 2 wherein said component ii is one or more selected from the group consisting of starch, cellulose, lignin, wood and cereals.

1. The biodegradable polyester mixture according to any of claims 1 to 3 wherein said component iii is an unsaturated carboxylic acid or a derivative thereof.
5. The biodegradable polyester mixture according to any of claims 1 to 4 wherein said component iii is maleic anhydride.
6. The biodegradable polyester mixture according to any of claims 1 to 3 wherein said component iii is an organic carboxylic acid which is capable of forming unsaturated carboxylic acids by elimination of water.
7. The biodegradable polyester mixture according to any of claims 1 to 3 wherein said component iii is a compound comprising two or more epoxy groups in the molecule.
- 5 8. The biodegradable polyester mixture according to any of claims 1 to 4 wherein said component iii is glycidyl acrylate and/or glycidyl methacrylate.
9. The biodegradable polyester mixture according to any of claims 1 to 8 which comprises  
20 from 10% to 70% by weight of said component i and  
from 30% to 90% by weight of said component ii,  
each percentage being based on the total weight of said components i to ii.
- 25 10. The biodegradable polyester mixture according to any of claims 1 to 9 which comprises from 0.5% to 10% by weight of said component iii, based on the total weight of said components i to ii.
- 30 11. A process for producing biodegradable polyester mixtures according to claims 1 to 10, which comprises said components i, ii and iii being in one step mixed and, in the presence or absence of a free-radical initiator, reacted.
- 35 12. A process for producing biodegradable polyester mixtures according to claims 1 to 10, which comprises a first step of said component iii being mixed with and, in the presence or absence of a free-radical initiator, reacted with one of said components i or ii and a second step of the hitherto unused component ii or i being mixed in and reacted.
- 40 13. The use of the biodegradable polyester mixtures according to claims 1 to 10 for producing blends, moldings, films, sheets or fibers.

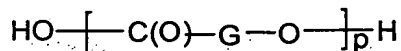
- c1) at least one dihydroxy compound which comprises ether functions and has the formula I



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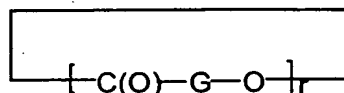
where n is 2, 3 or 4 and m is an integer from 2 to 250,

- c2) at least one hydroxy carboxylic acid of the formula IIa or IIb



(IIa)

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(IIb)

where p is an integer from 1 to 1500, r is an integer from 1 to 4 and G is a radical selected from the group consisting of phenylene,  $-(\text{CH}_2)_q-$ , where q is an integer from 1 to 5,  $-\text{C}(\text{R})\text{H}-$  and  $-\text{C}(\text{R})\text{HCH}_2-$ , where R is methyl or ethyl,

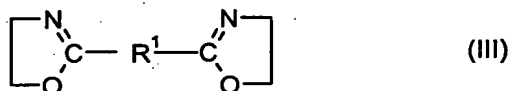
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- c3) at least one amino- $\text{C}_2-$  to  $\text{C}_{12}$ -alkanol or at least one amino- $\text{C}_5-$  to  $\text{C}_{10}$ -cycloalkanol or mixtures thereof

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- c4) at least one diamino- $\text{C}_1-$  to  $\text{C}_8$ -alkane

- c5) at least one 2,2'-bisoxazoline of the general formula III



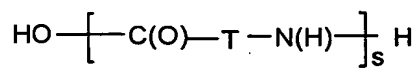
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where  $\text{R}^1$  is a single bond, a  $(\text{CH}_2)_z$ -alkylene group, where z = 2, 3 or 4, or a phenylene group

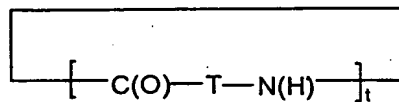
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- c6) at least one amino carboxylic acid selected from the group consisting of the natural amino acids, polyamides obtainable by polycondensation of a dicarboxylic acid having from 4 to 6 carbon atoms and a diamine having from 4 to 10 carbon atoms, compounds of the formulae IV a and IVb

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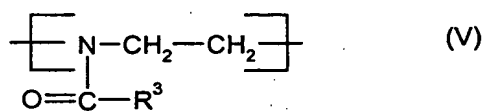
(IVa)



(IVb)

where s is an integer from 1 to 1500, t is an integer from 1 to 4 and T is a radical selected from the group consisting of phenylene,  $-(\text{CH}_2)_u-$ , where u is an integer from 1 to 12,  $-\text{C}(\text{R}^2)\text{H}-$  and  $-\text{C}(\text{R}^2)\text{HCH}_2-$ , where  $\text{R}^2$  is methyl or ethyl,

and polyoxazolines containing the repeat unit V



where  $\text{R}^3$  is hydrogen,  $\text{C}_1$ - $\text{C}_6$ -alkyl,  $\text{C}_5$ - $\text{C}_8$ -cycloalkyl, unsubstituted or  $\text{C}_1$ - $\text{C}_4$ -alkyl-monosubstituted, -disubstituted or -trisubstituted phenyl or is tetrahydrofuryl,

or mixtures of c1) to c6)

and

D) a component selected from

d1) at least one compound having at least three groups capable of ester formation,

d2) at least one isocyanate

d3) at least one divinyl ether

or mixtures of d1) to d3).

3. The biodegradable polyester mixture according to claim 1 or 2 wherein said component ii is one or more selected from the group consisting of starch, cellulose, lignin, wood and cereals.

4. The biodegradable polyester mixture according to any of claims 1 to 3 wherein said component iii is an unsaturated carboxylic acid or a derivative thereof.
5. The biodegradable polyester mixture according to any of claims 1 to 4 wherein said component iii is maleic anhydride.
6. The biodegradable polyester mixture according to any of claims 1 to 3 wherein said component iii is an organic carboxylic acid which is capable of forming unsaturated carboxylic acids by elimination of water.
7. The biodegradable polyester mixture according to any of claims 1 to 3 wherein said component iii is a compound comprising two or more epoxy groups in the molecule.
8. The biodegradable polyester mixture according to any of claims 1 to 4 wherein said component iii is glycidyl acrylate and/or glycidyl methacrylate.
9. The biodegradable polyester mixture according to any of claims 1 to 8 which comprises  
from 10% to 70% by weight of said component i and  
from 30% to 90% by weight of said component ii,  
each percentage being based on the total weight of said components i to ii.
10. The biodegradable polyester mixture according to any of claims 1 to 9 which comprises from 0.5% to 10% by weight of said component iii, based on the total weight of said components i to ii.
11. A process for producing biodegradable polyester mixtures according to claims 1 to 10, which comprises said components i, ii and iii being in one step mixed and, in the presence or absence of a free-radical initiator, reacted.
12. A process for producing biodegradable polyester mixtures according to claims 1 to 10, which comprises a first step of said component iii being mixed with and, in the presence or absence of a free-radical initiator, reacted with one of said components i or ii and a second step of the hitherto unused component ii or i being mixed in and reacted.
13. The use of the biodegradable polyester mixtures according to claims 1 to 10 for producing blends, moldings, films, sheets or fibers.

14. Blends, moldings, films, sheets or fibers comprising biodegradable polyester mixtures according to claims 1 to 10.